FINAL FIELD SAMPLING AND ANALYSIS REPORT
LONG LAKE - MITCHELL, ILLINOIS

BY:
CHRIS CAHNOVSKY
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
REGION 6 - FIELD OPERATIONS SECTION
BUREAU OF LAND
2009 MALL STREET
COLLINSVILLE, ILLINOIS 62234
JUNE 1999

3.2 Sediment

A total of eight (8) sediment samples were taken during this sampling event. The sediment samples were labeled X101 through X108. The sediment samples were taken at the same locations as the surface water samples. Samples X107 and X106 were obtain from a boat using separate and clean stainless steel bucket augers. Samples X105 through X101 were taken by wading to the middle of the lake. The sample depth of the sediment samples was 0 - 10 inches. The samples were removed from the auger using separate and clean stainless steel scoops. Each sample was placed into 16-ounce glass jars. Sample X108 was obtained from on top of the culvert using a bucket auger on an extension pole.

The sediment samples were analyzed for pH, total organic carbon, phenols, mercury (total and TCLP), magnesium, arsenic (total and TCLP), antimony (total and TCLP), barium (total and TCLP), beryllium(total and TCLP), chromium (total and TCLP), cobalt, lead (total and TCLP), nickel (total and TCLP), silver (total and TCLP), thallium (total and TCLP), zinc, calcium, sodium, aluminum, boron, cadmium (total and TCLP), copper, iron, manganese, selenium (total and TCLP), strontium, vanadium (total and TCLP) and potassium.

3.3 Slag

A sample of the slag road was obtained during this sampling event. The sample was taken using a stainless steel scoop. Slag of various sizes was collected and placed in a 32-ounce glass jar. This sample was labeled X201. Sample X201 was analyzed for mercury (total and TCLP), magnesium, arsenic (total and TCLP), antimony (total and TCLP), barium (total and TCLP), beryllium(total and TCLP), chromium (total and TCLP), cobalt, lead (total and TCLP), nickel (total and TCLP), silver (total and TCLP), thallium (total and TCLP), zinc, calcium, sodium, aluminum, boron, cadmium (total and TCLP), copper, iron, manganese, selenium (total and TCLP), strontium, vanadium (total and TCLP) and potassium.

What appears to be secondary copper slag has been used to construct a road and a culvert system through Long Lake. Various sizes of slag, ranging from fines to boulders, was used as fill for this road. The slag extended into the lake and was in contact with the water.

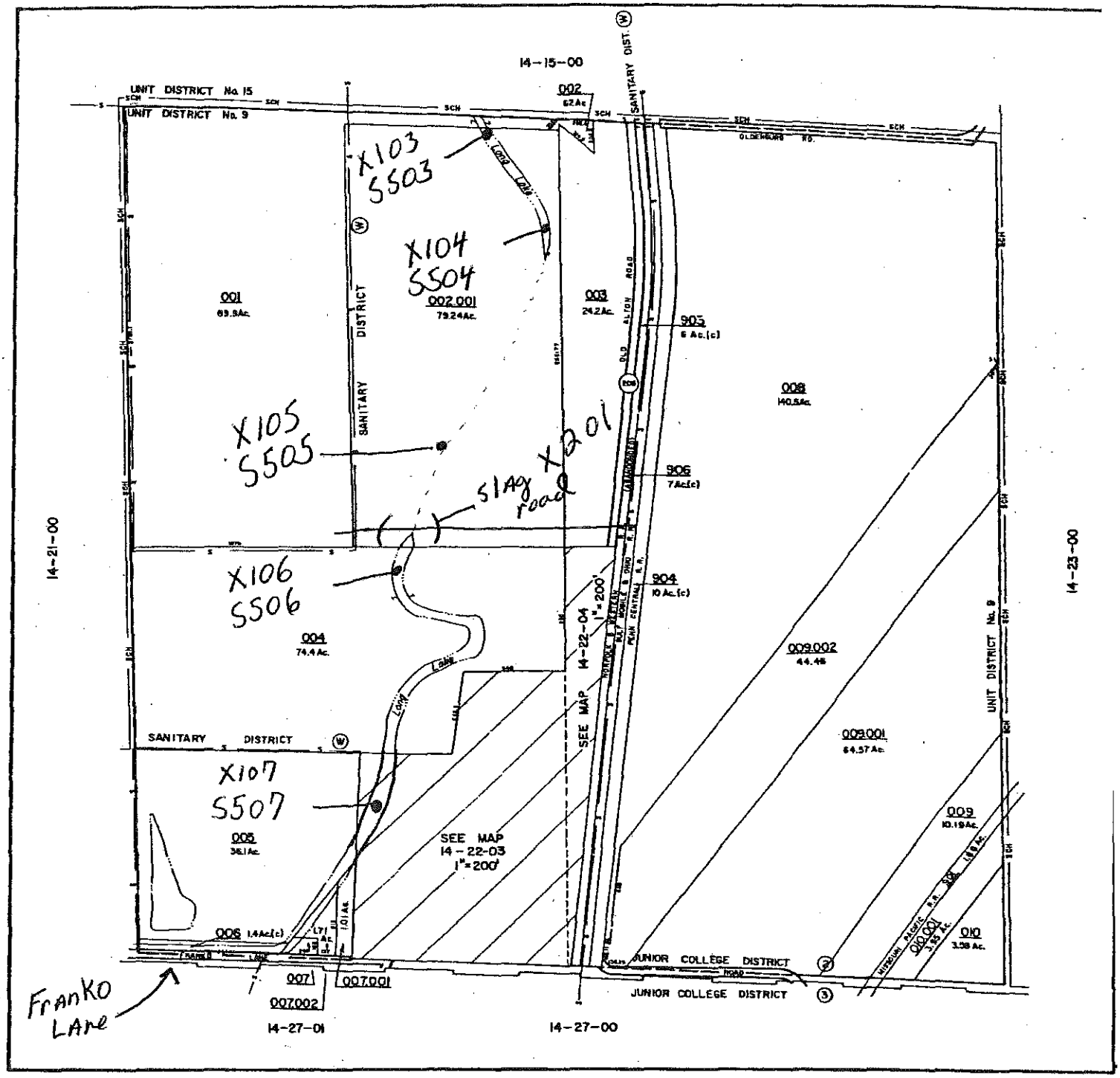
3.4 Sample Preservation

All surface water samples were preserved using nitric acid. The appropriate amount of nitric acid, about ten drops, was added to each sample to lower the pH to below 2.0. The samples were sealed with evidence tape and placed in an iced cooler for shipment to the laboratory.

TABLE 4.3.1
Slag Samples
Total and TCLP Metal Concentrations

	Total (mg/kg)	TCLP (mg/l)	TCLP Limits[1] (mg/l)
Aluminum	11,000	--	--
Barium	240	2.0	100.0
Beryllium	18	0.057	--
Boron	51	--	--
Cadmium	7.9	0.270	1.0
Calcium	19,000	--	--
Chromium	72	0.035	5.0
Cobalt	68	--	--
Copper	1,600	--	--
Iron	120,000	--	--
Lead	2,900	**14.0**	5.0
Magnesium	6,600	--	--
Manganese	1,400	--	--
Nickel	370	0.610	--
Potassium	1,400	--	--
Selenium	9.2	0.010K	1.0
Sodium	510	--	--
Strontium	45	--	--
Thallium	9.2	0.010K	--
Vanadium	32	0.005K	--
Zinc	34,000	--	--

II Title 35: Environmental Protection - Subtitle G: Waste Disposal - Chapter I: Pollution Control Board - Subpart C: Characteristics of Hazardous Waste - Section 721.124 Toxicity Characteristic



CHOUTEAU TOWNSHIP

MADISON COUNTY, ILLINOIS

LEGEND

STATE OR COUNTY LINE	EASEMENT LINE	ORIGINAL SUBDIVISION BLOCK NO.	(27)	DIMENSION IN FEET (Measured)	66.0 (M)
TOWNSHIP, CITY, TOWN LINE	PROPERTY LINE	ORIGINAL SUBDIVISION LOT & NO.	--4--(1)	INTERSTATE HIGHWAY	(70)
SECTION LINE	LAND HOOK	AREA IN ACRES (From Deed)	10.5 Ac.	U S HIGHWAY	(66)
HIGHWAY & STREET R/W	WATER	AREA IN ACRES (Calculated)	10 Ac.(c)	ILLINOIS STATE HIGHWAY	(3)
BLOCK LIMIT LINE	BLOCK NO. (100)	DIMENSION IN FEET (From Deed)	19.5	COUNTY HIGHWAY	(16)
RAILROAD R/W	PARCEL NO. 023	DIMENSION IN FEET (Scaled)	66 (M)	STREET OR TOWN ROAD	BY NAME

SPECIAL DISTRICTS

TYPE	SYMBOL	CODE	NAME
FIRE	F	(E)	MITCHEL
LIGHT	L		
SCHOOL	SCH	5 (2)	UNIT DISTRICT JUNIOR COLLEGE DISTRICT No. 536
SEWER	S	(W)	SPECIAL SERVICE AREA NO. 1
WATER	W		
PARK	P		
VOTING	V		

CLT
BALANCED
GOVERNMENTAL
SERVICES

The Mapping Division
COLE LAYER TRUMBLE COMPANY
AN AMERICAN APPRAISAL ASSOCIATES CO.

REAL PROPERTY MAP
PREPARED FOR
MADISON COUNTY
BOARD MEMBERS
Maps & Plats Department
COUNTY OF MADISON

DATE OF MAP: APRIL 25, 1977
DATE OF REVISION:
SCALE: 1" = 400'

16	15	14
21	22	23
28	27	26

N
T 5 N
R 9 W
4 INDEX TO 1" = 400' MAPS

CONGRESSIONAL TOWNSHIP NO.

SECTION 22
TOWN 04 NORTH, RANGE 09 WEST
14-22-00
MAP NUMBER

Figure 4-3

Environmental Protection Agency
DLPC/FOS Certified Sample Document
Laboratory: Champaign Springfield
Page 2 of 2

LP41 | LPC # [17] 1190002 00 | County Madison | Locality Mitchell/L. & Lake
Section [14] F | USEPA # N/A | Site Name [19] Mitchell / Long Lake

Project Manager's Name and Mailing Address: Chris Cahnovsky
Section/Unit: BOL/FOS Collinsville IL 6
IEPA Laboratory Address and Phone Number (circle one):
2125 S. 1st Street, Champaign, IL 61820, 217/333-6907
825 N. Rutledge Street, Springfield, IL 62702, 217/782-9780

Phone # 618/346-5120
Case # (if applicable)

Lab Sample # [01]	Parameter Group [03] & Other Analytes: SWAST	SWAST TCLP	[12] Split "2" Is yes	SAVE (y/n)	# Bottles	[15] Field Sample #	[20] Date Collected & Sealed	[21] Time Collected (24 hr clk)	Time Sealed (24 hr clk)	[22] Sampler's Initials	[24] Special Notations	Seal Intact (y/n)
B903265	X		N	N	1	X101	3/16/99	11:25	14:35	CNC	Total Metals w/	
B903266	X		N	N	1	X102	3/16/99	11:00	14:35	CNC	Zinc & Copper	
B903267	X		N	N	1	X103	3/16/99	10:25	14:35	CNC	"	
B903268	X		N	N	1	X104	3/16/99	10:05	14:35	CNC	"	
B903269	X		N	N	1	X105	3/16/99	9:50	14:35	CNC	"	
B903270	X		N	N	1	X106	3/15/99	11:00	15:30	CNC	"	
B903271	X		N	N	1	X107	3/15/99	10:45	15:30	CNC	"	
B903272	X		N	N	1	X108	3/16/99	11:45	14:35	CNC	"	
B903273		X	N	N	1	X201	3/15/99	11:10	15:30	CNC	TCLP Metals	
						Return Results to Chris Cahnovsky 618/346-5120						

Receipt for Samples: Collection of the above-listed sample(s) at the indicated site is hereby acknowledged. Split(s) Offered? y / n Accepted? y / n
Signature/Title of Facility Representative, Date

Samplers (printed names and signatures): Chris Cahnovsky, Mike Grant

Sealer: I certify that the samples listed above were sealed by me and I wrote my initials, the date, and the time on the seal(s).
Sealer's Signature & Initials: CNC | Date: 3/16/99 | Time (24 hr clk): 14:35

Carriers: I certify that I received the container(s) holding the above sample(s) with the seal(s) intact and the sealer's initials and sealing date written on the seal(s).

Relinquished by (Sealer)	Date	Time (24 hr clk)	Received by	Date	Time (24 hr clk)
	3/16/99 MAR 17 1999	14:45	UPS	3/16/99	14:45

To Sealed Container for Shipment

Laboratory Custodian: I certify that I received the container holding the above sample(s) with the seal integrity as indicated above and the sealer's initials and the date written on the seal(s). After being received, this/these same sample(s) will be retained by laboratory personnel at all times or locked in a secured area.
Printed Name, Signature, and Initials [07] | Date [05] | Time [06] (24 hr clk)

Supervisor releasing results (signature): | Date:

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

SAMPLE NUMBER : B903273
SAMPLING POINT DESC. : MITCHELL LONG LAKE, MADISON CNTY

SUBMITTING SOURCE # : 1190000000 SITE # : X201
DATE COLLECTED : 990315 TIME COLLECTED : 1110 SAMPLING PROGRAM :

COLLECTED BY : CNC DELIVERED BY : UPS
COMMENTS :
FUNDING CODE : LP41 AGENCY ROUTING : 00 UNIT CODE :
SAM TYPE CODE : SAMPLE PURPOSE CODE : F REPORTING INDICATOR : B

DATE RECEIVED : 990317 TIME RECEIVED : 0900 RECEIVED BY : LPD
LAB OBSERVATIONS : TRIP BL SAM# :
SUPERVISORS INITIALS : SMM NOTE : K = LESS THAN VALUE

A10000	PH,FINAL TCLP EXT UNITS	4.8	P79693	PHENOLS,SW846 MG/KG	0.51K
P79595	CYANIDE,SW84 D/WT MG/KG	0.51K	P81951	CARBON,ORG(TOC) MG/KG	21000
P70318	SOLIDS,% WET SAMPL %	98.54	P49134	MERCURY,TCLP SLD MG/L	0.001K
P99023	MERCURY,SW84 D/WT MG/KG	0.10K	P49100	ANTIMONY,TCLP SLD MG/L	.006K
P49099	ARSENIC,TCLP SLD MG/L	.010K	P49101	BARIUM,TCLP SLD MG/L	2.0
P49102	BERYLLIUM,TCLP SLD MG/L	.057	P49103	CADMIUM,TCLP SLD MG/L	.270
P49105	CHROMIUM,TCLP SLD MG/L	.035	P49109	LEAD,TCLP SLD MG/L	14.
P49112	NICKEL,TCLP SLD MG/L	.610	P49114	SELENIUM,TCLP SLD MG/L	.010K
P49115	SILVER,TCLP SLD MG/L	.005K	P49118	THALLIUM,TCLP SLD MG/L	.010K
P49119	VANADIUM,TCLP SLD MG/L	.005K	P79581	CALCIUM,SW84 D/WT MG/KG	19000
P79650	MAGNESIUM,SW D/WT MG/KG	6600	P79705	SODIUM,SW846 D/WT MG/KG	510
P00937	POTASSIUM,SW D/WT MG/KG	1400	P97545	ALUMINUM,SW8 D/WT MG/KG	11000
P79547	ANTIMONY,SW8 D/WT MG/KG	5.5K	P79548	ARSENIC,SW84 D/WT MG/KG	9.2K
P79550	BARIUM,SW846 D/WT MG/KG	240	P78463	BORON,SW846 D/WT MG/KG	51
P79556	BERYLLIUM,SW D/WT MG/KG	18	P79580	CADMIUM,SW84 D/WT MG/KG	7.9
P79591	CHROMIUM,SW8 D/WT MG/KG	72	P79594	COPPER,SW846 D/WT MG/KG	1600
P79593	COBALT,SW846 D/WT MG/KG	68	P79645	IRON,SW846 D/WT MG/KG	120000
P79649	LEAD,SW846 D/WT MG/KG	2900	P79651	MANGANESE,SW D/WT MG/KG	1400
P79671	NICKEL,SW846 D/WT MG/KG	370	P79703	SELENIUM,SW8 D/WT MG/KG	9.2K
P79704	SILVER,SW846 D/WT MG/KG	4.6K	P79706	STRONTIUM,SW D/WT MG/KG	45
P79712	THALLIUM,SW8 D/WT MG/KG	9.2K	P79722	VANADIUM,SW8 D/WT MG/KG	32
P79726	ZINC,SW846 D/WT MG/KG	34000			